



DOCUMENTING SAMPLE CONTROL

PROCEDURE ID: YMP-LBNL-QIP-SII.0

REV. 1, MOD. 0

EFFECTIVE: 9/30/96

1. PURPOSE

This procedure describes the documented control of physical samples.

2. SCOPE

This procedure governs samples used by Lawrence Berkeley National Laboratory (LBNL) Yucca Mountain Project (YMP) scientific investigations and applies to LBNL personnel and support participants (hereafter referred to as staff) working under the YMP-LBNL quality assurance program.

3. PROCEDURE

3.1 General Sample Identification and Traceability

- 3.1.1 All **Staff** shall ensure that sample identification and control is adequately documented to permit tracking of a sample or parts thereof, from its origination through all analytical or other processing including handling, preservation, shipment, transfer, analysis, and storage, to its present location or final disposition.
- 3.1.2 Prior to using a sample, the **Principal Investigator (PI)** or staff shall document in a laboratory or field notebook the identification number and other information that ties it to an Activity.
- 3.1.3 The **PI** or staff shall label a sample, or part thereof, with physical markings, if possible, by placing a unique identifier on the sample or its container. Physical markings shall:
 - a. be clear and legible,
 - b. not harm the sample,
 - c. not be obliterated or hidden by surface treatments or sample preparation unless other means of identification are substituted,
 - d. indicate, if necessary for the proper handling, storage and shipping of the sample, the presence of special environments or the need for special controls.

If physical markings are either impractical or insufficient, other means of identification, such as physical separation, container labels or tags, or administrative controls, shall be used.

- 3.1.4 If documents contain specific identification or traceability requirements, those specified controls shall be implemented.

3.2 Field Sample Origination

3.2.1 For samples collected in the field, the **PI** shall document in a scientific or field notebook, or in accordance with a technical implementing procedure (TIP) prepared per YMP-LBNL-QIP-5.2, *Preparing Quality & Technical Implementing Procedures*, as appropriate, the:

- a. unique sample identification number,
- b. date sample was taken,
- c. type of sample,
- d. collection method,
- e. field location,
- f. specifics on sample orientation relative to the location, and
- g. sample size (weight, volume, etc.)

3.2.2 **PIs** who use the Sample Management Facility (SMF) to store or register samples shall use the identification labels provided by the SMF and submit a Sample Collection Report to the SMF in accordance with procedure YAP-SII.4Q.

PIs may also use their own unique identifiers providing they maintain traceability to the SMF number.

Sample derivatives (pieces) do not need SMF identification labels, but must be traceable to the original sample.

3.3 Laboratory Sample Origination

For samples produced in the laboratory, the **PI** shall document, as appropriate, in a scientific notebook the:

- a. method of preparation (or reference to the appropriate TIP),
- b. assignment of a unique identification number to the sample (and on the sample if possible),
- c. special safety, preserving, and handling information, and
- d. other relevant information about the sample.

3.4 Obtaining or Receiving Samples

3.4.1 When requesting samples from the SMF, the **Requester** shall follow procedures YAP-SII.1Q and YAP-SII.2Q.

3.4.2 When receiving samples (transferring responsibility) from another staff member or organization, the **Recipient** shall document the receipt in a scientific notebook and ensure the notebook entry includes the original unique identifier and the SMF identifier (if available).

- 3.4.3 When samples are received in a condition unacceptable for the intended use, they may be returned to the sender with documentation of how the sample was received. The **Recipient** shall document this information in a scientific or field notebook. The **PI** shall then determine the need for further corrective actions according to Section 3.9 of this procedure, Nonconforming Samples.

3.5 Sample Storage

PIs shall:

- 3.5.1 store each sample under physical conditions that are sufficient to preserve it for its intended purpose(s), for a duration within its expected storage life, and labeled clearly with the expiration date to prevent the sample's use beyond the end of that period;
- 3.5.2 document special storage requirements in a scientific or field notebook, or by a TIP; and
- 3.5.3 maintain or replace identification markings that have been damaged or may deteriorate.

3.6 Sample Handling

PIs shall document, as appropriate, in a scientific or field notebook, or in a TIP:

- 3.6.1 methods for cleaning a sample,
- 3.6.2 special equipment, protective environments, and packaging,
- 3.6.3 safety precautions, and
- 3.6.4 any other special controls.

3.7 Sample Shipping

PIs shall document, as appropriate, in a scientific or field notebook, or in a TIP:

- 3.7.1 the unique identifier for each sample or shipping container,
- 3.7.2 if shipment is by commercial carrier, the invoice number for the shipment, and
- 3.7.3 special packaging environments or controls.

3.8 Sample Archiving

Samples that are no longer needed for study on the YMP shall be disposed of by staff as appropriate by:

- 3.8.1 submitting, or returning, samples to the SMF in accordance with procedure YAP-SII.1Q;
- 3.8.2 for samples that can not be returned to the SMF (for example, because of contamination), submitting to the SMF documentation concerning the circumstances and status of the samples;
- 3.8.3 documenting the final disposition of the samples in a laboratory or field notebook, and whether they were sent to the SMF or disposed of by other means.

3.9 Nonconforming Samples

Samples that do not meet specified requirements, lose traceability, or are determined by the Staff to have been compromised, are considered to be nonconforming samples. Dispositions shall be limited as 'use-as-is', 'limited-use', or 'discard' as addressed in YAP-15.1Q.

Staff shall control the use of nonconforming samples in accordance with procedure YAP-15.1Q and coordinate with the Quality Assurance Manager for issuance of a non-conformance report

4. RECORDS MANAGEMENT AND ACCEPTANCE CRITERIA

4.1 Lifetime

Scientific and Field Notebooks
Other documents for sample control and identification.

4.2 Non-permanent

None

4.3 Controlled Documents

None

4.4 Records Center Documents

Records associated with this procedure shall be submitted to the YMP-LBNL Local Records Processing Center, in accordance with YMP-LBNL-QIP-17.0.

5. RESPONSIBILITIES

- 5.1 The **Principal Investigator** is responsible for overseeing fulfillment of this procedure.

- 5.2 Staff Members** involved in any part of this procedure are responsible for turning over related documentation to the YMP-LBNL Records Processing Center and for carrying out the documentation activities identified in this procedure.

6. ACRONYMS AND DEFINITIONS

6.1 Acronyms.

SMF Sample Management Facility

6.2 Definitions.

Sample Management Facility (SMF). The SMF is the facility used for the documentation, storage and control of samples, specimens and remnants collected and dispersed for analysis and evaluation by users. The SMF consists of a physical facility and equipment designed to effectively process and conserve preserved collected samples.

Principal Investigator (PI) or Staff Member. Any scientist, engineer, research or technical associate, technician, or student research assistant performing scientific or quality affecting work.

7. REFERENCES

DOE/RW/0333P, *Quality Assurance Requirements and Description, Supplement II, "Sample Control"*

YAP-15.1Q, *Control of Nonconformances*

YAP-SII.1Q, *Submittal, Review, and Approval of Requests for Yucca Mountain Site Characterization Project Geologic Specimens*

YAP-SII.2Q, *Requesting Samples for Examination at the Yucca Mountain Site Characterization Project Sample Management Facility*

YAP-SII.4Q, *The Collection, Submission, and Documentation of Non-Core and Non-Cuttings Samples to the SMF for Site Characterization*

YMP-LBNL-QIP-5.2, *Preparing Quality & Technical Implementing Procedures*

YMP-LBNL-QIP-SIII.0, *Scientific and Field Notebooks*

8. ATTACHMENTS.

None.

9. REVISION HISTORY.

9/22/95 - Revision 0, Modification 1:

Administrative refinement in identifying lifetime and non-permanent records and controlled documents.

9/13/96 - Revision 1, Modification 0:

Revised procedure to reflect requirements changes in QARD, Rev. 5.

10. APPROVAL

Preparer:

Date

Technical Reviewer:

Date

Technical Reviewer:

Date

QA Reviewer:

Date

Quality Assurance Manager:

Date

Project Manager:

Date